RIVER RESOURCES FORUM #81

Tuesday, 29 April 2008, 12:30 – 4:30
Wednesday, 30 April 2008, 8:00 – 11:00

Signatures, Winona, MN

See page 2 for meeting location and lodging information

Agenda

Tuesday, 29 April

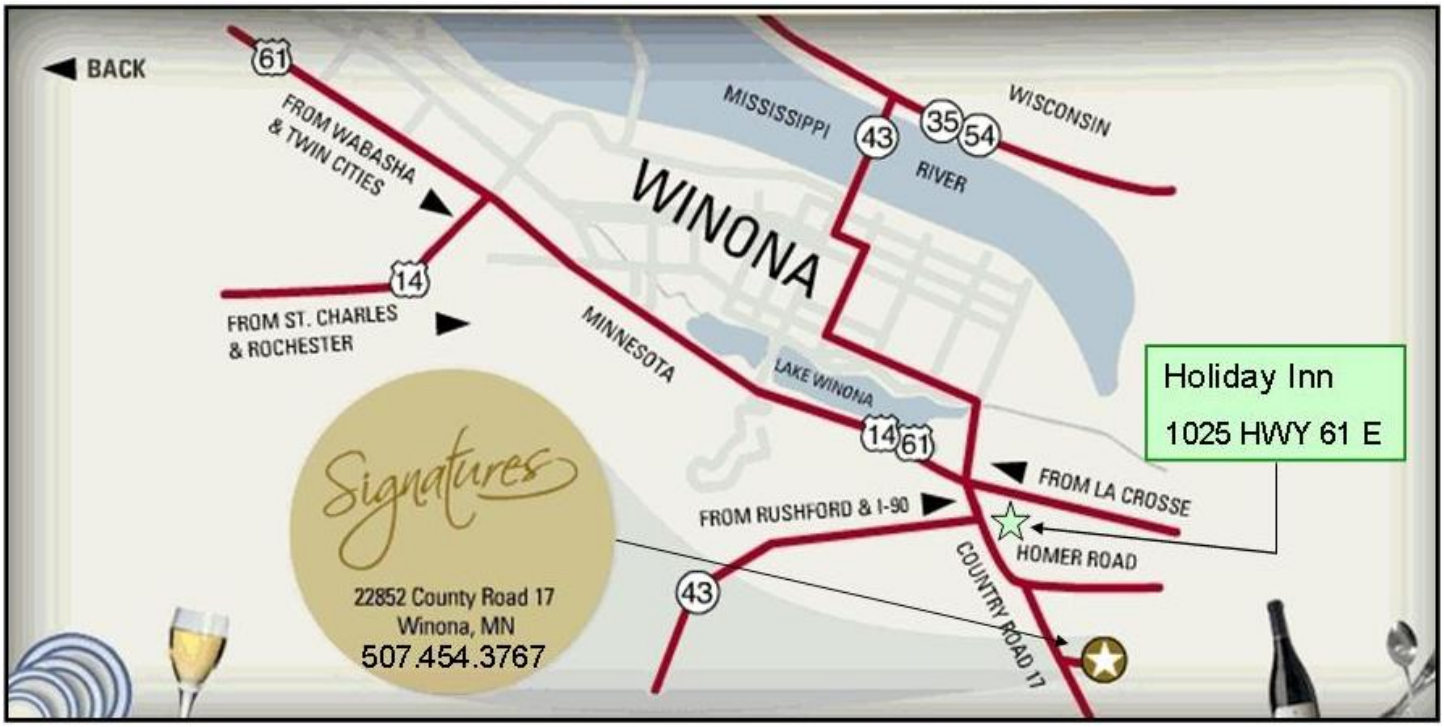
12:30 – 12:45	Introductions, Approve Minutes, Next Meetings & Locations	Tapp/Benjamin
12:45 – 1:45	Agency Activities	All
1:45 – 2:15	Channel Maintenance Program Activities	COE-CH
2:15 – 2:30	*Break*	
2:30 – 3:00	Environmental Management Program	Powell
3:00 – 3:30	Navigation & Ecosystem Sustainability Program (NESP)	DeZellar
3:30 – 4:30	Discuss Draft Integration Paper *- Endorsement of Integration Text*	Benjamin
4:30	*Adjourn*	

Wednesday, 30 April

8:00 – 8:15	Recap of yesterday	Tapp/Benjamin
8:15 – 9:15	Water Level Management Task Force Activities - *Endorsement of Pool 6 Drawdown*	Schlagenhaft
9:15 – 9:30	*Break*	
9:30 – 9:45	Floodplain Restoration Task Force Discussion	Schlagenhaft
9:45 – 10:30	Fish & Wildlife Work Group Activities - Channel Maintenance Material for Ecosystem Restoration - Ecosystem Restoration Reach 3 Workshop - Pool 3 WLM Fact Sheet	Anderson
10:30 – 10:45	Recreation Work Group Activities	Berg
10:45 – 11:00	Navigation Work Group Activities	Lambert
11:00	*Adjourn*	

Meeting Location for RRF #81 & Dan's Retirement Luncheon

Signatures, 22852 Cnty Rd 17, Winona, MN



From Winona, MN:
From the junction of State 43 (Mankato Ave) and US61, go East on Homer Road. Turn right on to the first road beyond the cemetery (Cty 17 S). The entrance to Signatures is on the left less than 1 mile from the intersection of Homer Road and Cty 17.

Lodging Information

Holiday Inn 507-454-8132
1025 Hwy 61 E, Winona, MN

A block of 30 rooms are on hold until **April 8**. You must state you are making reservations under the "COE" block. The rate is $70/nite plus tax. Check in time is 3:00 PM, check out time is 12:00 PM.

RIVER RESOURCE FORUM #81

29 & 30 April 2008

NAME	ORG	EMAIL	PHONE NO.
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Gretchen Benjamin	WI DNR	Gretchen.benjamin@wisconsin.gov	608-785-9982
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U.S. Fish and Wildlife Service

Upper Mississippi River National Wildlife and Fish Refuge

FACT SHEET

Electric Motor Areas and Slow, No-Wake Areas
Effective as posted after Memorial Day, 2008

Electric Motor Areas: In areas posted and shown on maps as "Electric Motor Area," we prohibit motorized vehicles and watercraft year-round except watercraft powered by electric motors or nonmotorized means. We do not prohibit the possession of other watercraft motors in these areas, only their use.

Slow, No-Wake Areas: In areas posted and shown on maps as "Slow No Wake Area," we require watercraft to travel at slow, no-wake speed from March 16 through October 31. We apply the applicable State definition of slow, no-wake operation in these areas. We also prohibit the operation of airboats or hovercraft in these areas from March 16 through October 31.

Existing Electric Motor Area

Pool 6	Mertes Slough, Wisconsin, 222 acres

2008 NEW Electric Motor Areas (4 areas, 1,630 acres)

Pool 5	Island 42, Minnesota, 459 acres.
Pool 5A	Snyder Lake, Minnesota, 182 acres.
Pool 7	Browns Marsh, Wisconsin, 827 acres.
Pool 10	Hoosier Lake, Wisconsin, 162 acres.

2008 NEW Slow, No-Wake Areas (7 areas, 6,744 acres)

Pool 5A	Denzers Slough, Minnesota, 83 acres.
Pool 7	Black River Bottoms, Wisconsin, 815 acres.
Pool 8	Blue/Target Lake, Minnesota, 1,834 acres.
Pool 8	Root River, Minnesota, 695 acres.
Pool 9	Reno Bottoms, Minnesota, 2,536 acres.
Pool 12	Nine Mile Island, Iowa, 454 acres.
Pool 14	Princeton, Iowa, 327 acres.

2009 NEW Slow, No-Wake Area (1 area)

Pool 4	Nelson-Trevino, Wisconsin, 2,626 acres.

4/08

U.S. Fish and Wildlife Service

Upper Mississippi River National Wildlife and Fish Refuge
Comparison of Current and New (2008) General Recreation Regulations

Subject	Current Refuge Regulation	New Refuge Regulation Effective May 27, 2008
Collecting edible fruits, nuts, mushrooms, plant parts	No regulation, but generally allowed, sometime by special use permit.	Collecting of edible fruits, nuts, mushrooms, or other plant parts for personal use allowed without permit (no sale or barter). Limit of 2 gallons by volume per person, per day.
Wild rice harvest	Prohibited	Prohibited
Other natural objects, antlers	Prohibited except by special use permit.	Permit needed for collection of plants or their parts for ornamental use. Shed antler collection allowed.
Cutting, removing or damaging vegetation	Prohibited without a permit except willows for trap stakes, blinds, and commercial fishing gear.	Same, but regulation clarified to prohibit attaching nails, screws, or other hardware to trees.
Vehicle access/use	Off road vehicles prohibited except on ice over navigable waters accessed from boat landings.	Same, language clarified.
Dogs	Encouraged when hunting; must be under control or on a leash at other times and leashed on trail, access areas. Out-and-back retrieval training/exercising allowed.	Same
Firearms	Carrying, possession, or discharging prohibited except by licensed hunters/trappers during established seasons. Firearm definition includes training pistols and training dummy launchers. Target practice not allowed.	Same
Glass food and beverage containers	No restriction.	Prohibited on beaches and other lands within refuge, OK in boats or vehicles.
Sanitation, litter	All sites must be kept clean during period of use and occupancy, and no litter or refuse scattered on ground. Litter must be disposed off-refuge immediately upon vacating site.	Same, except new provision requires that human solid waste and associated material be either removed and disposed off-refuge or buried on site to depth of 6-8 inches at least 50 feet from water.

Please note: This is a brief summary of current and new regulations for comparison purposes. Please consult full regulations and maps available at refuge offices or on the refuge website at: www.fws.gov/midwest/UpperMississippiRiver/ 4/08

U.S. Fish and Wildlife Service

Upper Mississippi River National Wildlife and Fish Refuge
Comparison of Current and New (2008) General Recreation Regulations

Electric Motor Areas	Currently one (1) area (Mertes Slough, Pool 6)	Four (4) new areas, 1,630 acres. Motorized vehicles and watercraft prohibited except watercraft powered by electric motors or nonmotorized means. The possession of other motors not prohibited, only their use. Areas remain open to hunting, fishing, and other uses.
Slow, No-Wake Areas	None	Eight (8) new areas, 9,370 acres. Nelson-Trevino area takes effect in 2009, rest in 2008. Watercraft required to travel at slow, no-wake speed from March 16 through October 31. Applicable state definition of slow, no-wake operation applies. No airboats or hovercraft allowed March 16 through October 31. Areas remain open to hunting, fishing, and other uses.
Slow, No Wake Zones	Two in place for safety or shoreline protection; not specifically in refuge regulations.	Zone designation added to refuge regulations. Several new areas proposed for safety or shoreline protection; working through local/state authorities to establish. Speed and distance regulation established for Spring Lake and Crooked Slough-Lost Mound in Pool 13.
Boat Mooring	Boats may be left unattended for 72 hours; mooring within 200 feet of boat landings or restricted areas prohibited.	Boats must be used every 24 hours and being used defined as moving boat at least 100 feet on water with operator on board. Other mooring restrictions remain the same.
Camping	Allowed refuge-wide except during waterfowl hunting season in Closed Areas, Sanctuaries and No hunting Zones, and must be within sight of main channel during waterfowl season. Camping defined, limit of 14-day stay on any site, restricted at landings/public use sites, must occupy daily (minimum of 2 hours), and must remove equipment.	Same except no camping at boat ramps and other public use facilities clarified. No camping within 200 feet of any boat landing, access, parking lot, structure, road, trail, or other recreation or management facility.
Campfires	Allowed in conjunction with camping, day-use activities, and ice fishing. May use dead wood on ground, charcoal or bring firewood, but such unused firewood must be removed on departure. Other rules on burying fires, fire safety and location, and burning hazardous material or trash included.	Same

Please note: This is a brief summary of current and new regulations for comparison purposes. Please consult full regulations and maps available at refuge offices or on the refuge website at: www.fws.gov/midwest/UpperMississippiRiver/ 4/08

ST PAUL DISTRICT - CORPS OF ENGINEERS

2008 CHANNEL MANAGEMENT & PLACEMENT SITE ACTIVITIES SCHEDULE

Updated: 16 April 2008

Pool(s)	Status	Job Name/Description	Work Type (see Key)	River Mile(s)	Work Dates	Approximate Construction Time	Equip	Cubic Yards Dredged	Rock (Tons)	Comments/Job Notes
Scheduled Channel Management Activities										
2		Is 112 Rock Structure - Relocate notch downstream	SM	827.5R	Aug/Sep 2008		MR			Pending design, OSIT, & MnDNR permit.
2		Sand Berm along Is. 112 (LP2 CMS)	DR	827.5R	2008		CT			Dredging from Grey Cloud Slough cut - placed along shoreline.
8		Pool 8 Is. 116 - Dredging Behind Closure Structure	DR	690.2R	July 2008	*1 day*	MR	*200*		OSIT held 5/30/07. Pending EA & signed FONSI.
Potential Channel Management Activities										
2		Secondary Channel (LP2 CMS)	EX	826.7R	2009		MR	*5,000*		Pending Design, MnDNR permits. Work funded via NESP.
2		Notch 31 Wing Dams (LP2 CMS)	SM/WD	NA	2009		MR	*11,000*		Pending Design, MnDNR permits. Work funded via NESP.
8		Crosby Slough Protection (P8 CMS)	CL/BS	690.3L	2009	*1 week*	MR		*1,000*	OSIT held 5/30/07. Design pending.
8		Raise & Extend 3 Wing Dams (P8 CMS)	SM/WD	690.2L	2009	*1 week*	MR		*1,500*	OSIT held 5/30/07. Design pending.
Scheduled Placement Site Activities										
MN		Cargill East River	RE	14.1R	May - Jun 2008	*4 weeks*	MR			Hold OSIT meeting prior to construction.
2		Southport	OT		May 2008					boundaries due to development of site.
4		Crats Island - Bank Stabilization	BS	759.3L	Jul - Sep 2008	*2 weeks*	CT		*3000*	PDT preparing P&S. OSIT meeting scheduled prior to construction.
4		Teepeeota Island - Unloading	EX	757.5L	Jun - Nov 08		CT	*300,000*		Contract to unload material to Bennett Pit in Wabasha, MN.
4		Teepeeota Island/LD4 Embankment	EX	757.5L	May 2008		CT/MR	*35,000*		Mechanical CT unload material to LD 4 Embankment. M&R will grade.
4		LD 4 Embankment - Rock Groins	BS	752.8	Jun 2008		MR		*1040*	Install interior rock groins to west berm embankment.
4		LD 4 Embankment - Fines/Clear Lake Dredging	BS	752.8	Aug - Sep 2008		CT	*7,200*		PDT working on P&S. Scheduled for advertisement in May 08.
5		West Newton Chute - kiosk	IN	749.8R	2008		CH			Install kiosk.
5		Lost Island	RE	744.7L	14-25 Apr 08	*2 weeks*	MR			Prepare site for dredging ops.
8		Above Brownsville - Unloading	EX	690.4L	2008-2009		CT	*207,000*		Unload material for Pool 8 Ph III Stg 2B conctract.
8		Brownsville	RE	688.7R		*2 days*	MR			Reshape berm and relocate dredge pipe.
8		Brownsville - kiosk	IN	688.7R	2008		CH			Install Kiosk.
9		Lansing Hwy Bridge	RE	663.5L	2008		MR			Prepare site for dredging ops.
9		Lansing Hwy Bridge - Landscaping	LS	663.5L	2008		NR			Landscape berm
10		Buck Creek - kiosk	IN	618.0R	2008		CH			Install Kiosk. Install berm signs.
Potential Placement Site Activities										
2		Pine Bend	RE	823.8L	2009		MR			Expand to CMMP limits.
3		Corps Island	EX	799.2	2010		CT			Contract to unload dredge material.
4		Red Wing Commercial Harbor	IN	791.6	2010		MR			Relocate placement site according to the cities overall plan.
4		Wabasha Gravel Pit	EX	761.0R	2009		CT			HTRW review and railroad tie removal.
4		Reads Landing	RE	762.7L			MR			Prepare site for dredging ops.
4		Reads Landing - Bank Stabilization	BS	762.7L			CT		2200	OSIT prior to construction.
4		Crats Island	RE	759.3L			MR			Prepare site for dredging ops.
4		Teepeeota Island - Bank Stabilization	BS	757.5L	2009		MR		*3500*	OSIT prior to construction.
5		Fisher Island - Unloading	EX	745.8R	2009		CT	*800,000*		Contract to unload dredge material.
10		Mississippi Gardens	RE	642.4L	2008		MR			Prepare site for dredging ops. CH needs to coordinate with FWS.
10		McMillan	RE	618.7L	2008		MR			Prepare site for dredging ops.
Other Scheduled M&R Work										

Key

*	Currently operating at this job.
**	Work has been completed.
WS	Work Suspended
CMS	Channel Management Study
WC	Work Canceled

BS	Bank Stabilization
CL	Closure
DR	Dredging
DS	Drop Structure
EX	Excavation
FB	Fabrication
IN	Installation
IS	Island
LS	Landscaping
RE	Reshaping
WD	Wing Dam
SM	Structure Modification
OT	Other (see Comments)

CT	Contractor (Mechanical, Hydraulic, Other)
PO	Purchase Order
CH	COE Channels & Harbors Unit
NR	COE Natural Resource Project Office
MR	COE Maintenance & Repair Unit
GZ	COE Dredge Goetz
DQ	COE Dredge Dubuque
IaDNR	Iowa Department of Natural Resources
MnDNR	Minnesota Department of Natural Resources
WiDNR	Wisconsin Department of Natural Resources
It	Italicized numbers are estimates.

DRAFT

18 March 2008

CECW-MVD

MEMORANDUM FOR THE CHIEF OF ENGINEERS

SUBJECT: Implementation Guidance for Upper Mississippi River and Illinois Waterway System – Title VIII of the Water Resources Development Act of 2007

1. General. The dual-purpose navigation and ecosystem restoration plan for the Upper Mississippi River and Illinois Waterway (UMR-IWW) was authorized by Title VIII of the Water Resources Development Act of 2007 (WRDA 07) substantially in accordance plan in the report of the Chief of Engineers dated 15 December 2004. While not changing the features of the plan in the Chief of Engineers Report, the WRDA 07 authorization provides additional implementation requirements and reporting. The authorized plan for the navigation purpose includes small scale navigation and nonstructural measures consisting of mooring facilities at seven locations, switchboats at Locks 20-25 on the Upper Mississippi River, and development and testing of an appointment scheduling system (traffic management) at an authorized cost of $256 million. Large scale navigation measures consists of new 1,200-foot locks at Locks 20, 21, 22, 24 and 25 on the Upper Mississippi River and LaGrange Lock and Peoria Lock on the Illinois Waterway at an authorized cost of $1.948 billion. The ecosystem restoration portion of the plan consists of large scale projects for fish passage and dam point control to facilitate water level management at locations specifically identified in the feasibility study and a programmatic authorization for various types of ecosystem restoration projects with a total single project cost not to exceed $25 million of projects and a limitation of $35 million per fiscal year for land acquisition. The total ecosystem restoration authorized cost is $1.717 billion of which not more than $245 million shall be available for fish passage and not more than $48 million shall be available for dam point control.

2. Funding. The UMR-IWW has not been budgeted for Preconstruction Engineering and Design (PED) but a total of $24 million was appropriated for PED in FY 05 and FY 06. The FY07 work plan included $14 million for PED and the Energy and Water Development and Related Agencies Appropriations Act of 2008 includes $8.856 million for PED. There is a capability to initiate construction of projects for navigation mooring cells and ecosystem restoration in FY 09. This implementation guidance does not constitute a commitment to budget for the UMR-IWW but is issued in recognition that Congress has appropriated PED funding and may appropriate construction funding in the future.

3. Incremental Adaptive Implementation. The UMR –IWW project will be implemented under an incremental adaptive management approach. The adaptive management approach will focus on delivering meaningful navigation and restoration benefits as early as possible, scheduling projects to provide early benefits and learning that can be applied to future projects, scheduling projects recognizing their mutual dependency in realizing navigation and ecosystem restoration system benefits, and phasing large projects to provide early benefits.

4. Navigation Improvements- Small Scale and Nonstructural Measures. The mooring facilities authorized by SEC. 8003(a) will be implemented through the preparation and approval of Design Documentation Reports by the District commands in accordance with the process outlined in ER 1110-2-1150. Implementation of a pilot program to test the effectiveness of switchboats will be implemented in accordance with an implementation plan coordinated with the vertical project development team and approved by the Division Commander. Appropriate traffic management measures, particularly traffic management measures during lock construction, will be coordinated with the vertical project development team and approved by the District Commander with no further delegation.

5. Navigation Improvements- New Locks. The new locks authorized by SEC. 8004(b) will be implemented through the preparation and approval of Design Documentation Reports by the District commands without further delegation in accordance with the process outlined in ER 1110-2-1150 and in accordance with policies under development for Safety Assurance Review, and External Peer Review of post authorization documents, as applicable.

6. Mitigation for Navigation Improvements. Mitigation for small scale and nonstructural measures and new locks, including any acquisition of lands or interests in lands, shall be undertaken or acquired concurrently with lands and interests in land for the projects and physical construction required for the purposes of mitigation shall be undertaken concurrently with the physical construction of the locks.

7. Ecosystem Restoration.

A. General. The ecosystem restoration plan authorized in Title VIII of WRDA 2007 is the initial increment of a framework plan developed by identifying broad ecosystem goals to meet the planning objective of restoring the ecosystem of the UMR-IWW including addressing the cumulative impacts and ongoing effects of the navigation system. These broad goals were further defined into systemic goals and site specific objectives which were the basis of identifying the general locations, sizes, shapes, and features of projects. These potential projects were combined into alternatives and evaluated. The potential projects were developed at less than a feasibility level of detail. The authorized ecosystem restoration first increment plan includes about 225 projects in three categories as presented in the following paragraphs.

B. Fish Passage and Dam Point Control. The authorized plan includes construction of fish passage at dams 4, 8, 22, and 26 on the UMR along with engineering and design for fish passage at dam 19 on the UMR. Dam point control will replace hinge point control for water level management and is authorized at dams 16 and 25 on the UMR. The total authorized cost for fish passage is $245 million and $48 million is authorized for dam point control. The projects will be implemented through the preparation and approval of feasibility level Project Implementation Reports (PIR). Approval of these reports is delegated to the Chief of Engineers with no further delegation. As measures that modify the operation of structures for navigation, these projects are 100 percent Federal funded. Land or interest in land will be from willing sellers through conveyance of fee title or flood plain conservation easement except that condemnation will be used when title cannot be cured and condemnation may be used where agreement cannot be reached with the landowner on price and the landowner concurs on use of condemnation.

C. Ecosystem Restoration Projects Located Below Ordinary High Water Mark or in Connected Backwater; That Modify the Operation of Structures for Navigation: or That Are Located on Federally Owned Land. This consists of about 210 projects as generally described in the feasibility report that are located below ordinary high water or on connected backwater; that modify operation of structures for navigation; or that are located on Federally-owned land. These projects represent approximately $1.1 billion of the total initial authorization for ecosystem restoration of $1.7 billion and include water level management, island building, backwater restoration, side channel restoration, wing dam alteration, island and shoreline protection, topographic diversity improvement, and dam embankment lowering. The projects will be implemented through the preparation and approval of a feasibility level PIR . The approval of these reports is delegated to the Chief of Engineers with further delegation to the Mississippi Valley Division (MVD) Commander and additional delegation to the District Commander with no further delegation for projects with total cost of $5 million or less. These projects are 100 percent Federal and have a total cost limit of $25 million. Except for temporary construction easements, these projects should generally require no acquisition of land or easements. Where limited acquisition of fee title is required, for example at the top of bank for an island or shoreline protection project, such acquisition can be accomplished at 100 percent Federal cost and Federal acquisition as long as the land or interest in land is acquired from willing sellers. Condemnation will be used when title cannot be cured and condemnation may be used where agreement cannot be reached with the landowner on price and the landowner concurs on use of condemnation . Operation, maintenance, replacement, repair and rehabilitation (OMRR&R) responsibility for these projects is with the Federal or state agency managing the land and/or water area on which the project is located except that, in accordance with the recommendation in the Chief of Engineer's report, the Corps of Engineers may undertake, at full Federal expense, the major rehabilitation of any measure damaged by a major flood event.

D. Ecosystem Restoration Projects Involving Land and Easement Acquisition-Primarily Floodplain Restoration Projects. This consists of about 35,000 acres of floodplain acquisition for purposes of floodplain connectivity and wetland and riparian

habitat protection and restoration at an estimated total cost of $300 million. Projects will be implemented in two phases: the feasibility phase and, assuming construction funds are appropriated, the design and implementation phase under a process similar to the implementation of continuing authority projects as described in Appendix F of ER 1105-2-100. Projects approval is delegated to the Chief of Engineers with further delegation to MVD and no further delegation. These projects require cost sharing with a qualified non-Federal sponsor in accordance with section 221 of the Flood Control Act of 1970 (42 U.S.C. 1962d-5b). A non-Federal sponsor may include a nonprofit entity with the consent of the affected local government, primarily the state, in which the project is located. The non-Federal sponsor must meet the requirements specified in section F-3h of Appendix F of ER 1105-2-100. The cost sharing applicable to the project is 65 percent Federal and 35 percent non-Federal and the non-Federal sponsor has the responsibility to OMRR&R the completed project except that the Corps of Engineers may cost share in the major rehabilitation of any measure damaged by a major flood event. The non-Federal sponsor will provide all lands, easements, and rights-of way including lands for the disposal areas; perform or assure the performance of all relocations; and provide any required improvements to disposal areas (LERRD). Land or interest in land will be from willing sellers through conveyance of fee title or flood plain conservation easement except that condemnation will be used when title cannot be cured and condemnation may be used where agreement cannot be reached with the landowner on price and the landowner concurs in use of condemnation. The value of LERRD will be a part of project costs and be credited toward the non-Federal 35 percent share. The non-Federal sponsor shall provide during the period of construction any additional funds as necessary to make its total contribution equal to 35 percent. These floodplain restoration projects must meet lateral connectivity and floodplain restoration ecosystem goals beyond simple floodplain preservation and in addition to land acquisition must include active restoration measures. Consistent with the connectivity and floodplain restoration goals established in the Chief of Engineers Report of 15 December 2004 and the reports of the district and division engineers which require the acquisition of floodplain or formerly floodplain areas, there is no maximum land acquisition ceiling established for these projects. The policy on land intensive ecosystem restoration projects and voluntary waiver of reimbursement of the value LERRD that exceed the non-Federal sponsor's percentage share of total project costs will not apply. Value of LERRD above the required 35 percent non-Federal share will be reimbursed, subject to the availability of funds, limitations on total project costs, and the annual program limits for land acquisition. The total cost of any single project may not exceed $25 million. Not more than $35 million in any fiscal year may be used for land acquisition. This limitation applies to all land acquisition including any acquisition required for the projects described in paragraphs 6 B and 6C. .

E. Project Implementation Process for 100 Percent Federal Project.

(1) PIR Content. The Chief of Engineers report and the reports of the district and division commanders established a Federal interest in the ecosystem restoration plan, established the justified scope of the plan, and identified preliminary locations of projects. The remaining objective is the detailed formulation and description of the

recommended project plan. This objective will be accomplished by preparation of a PIR decision document for the project. PIR's will be initiated upon appropriation of Preconstruction Engineering and Design (PED) or Construction General funds based on project priorities established in a collaborative process with the Federal agency partners, the five states, non-governmental organization (NGO) partners, other stakeholders and the Advisory Panel (See paragraph 3.i.). The PIR minimum requirements are: (1) a clear description of the recommended plan; (2) project justification based on reasonably maximizing net National Ecosystem Restoration (NER) benefits and demonstrating the selected plan is cost effective and justified to achieve the desired level of outputs; (3) documentation of compliance with appropriate Federal, state, and local environmental and regulatory requirements; (4) a description of the real estate required for the project and a completed Real Estate Plan, in accordance with Chapter 12 of ER 405-1-12 , if the project includes acquiring an interest in land; (5) identification of the anticipated operation, maintenance, repair, replacement, and rehabilitation (OMRR&R) activities, including estimated costs; (6) description of non-Federal OMRR&R responsibilities, as appropriate; (7) the feasibility level ITR certification; and (8) District Counsel statement of legal sufficiency for the decision documentation and NEPA process. PIR's for the specifically authorized fish passage and dam point control projects will be evaluated under the criteria of EC 1105-2-408 and the 30 March 2007 Director of Civil Works memorandum on the peer review process to assess the need for external peer review. PIR's for projects of $25 million or less which are authorized programmatically will not be subject to external peer review due to their limited scope and complexity and non-controversial nature. In addition, in accordance with the requirements of SEC. 8004(d), the PIR will establish ecosystem restoration goals and specific performance measures indicators: establish the without-project condition or baseline for each performance indicator; and for each separable element of the ecosystem restoration, identify specific target goals for each performance indicator. Performance measures identified in the current Budget EC should be considered including acres of habitat restoration, river miles of habitat restoration, and acres/ river miles of nationally significant habitat restoration completed per dollar invested. Other performance measures identified by SEC 8004(d)(2) include specific measurable environmental outcomes, such as changes in water quality or the well being of indicator species, the population and distribution of which are representative of the abundance and diversity of ecosystem-dependent aquatic and terrestrial species. The PIR shall include a monitoring plan for the performance measures including timeline to achieve the identified target goals and a timeline for the demonstration of project completion. The scope and complexity of goal setting and performance monitoring will be consistent with the scope and complexity of the project. The PIR will include documentation that the project and monitoring plan have been developed in consultation with the Department of the Interior and the involved state. The MVD Commander will establish the details of the PIR requirements and format; however, PIRs should provide feasibility level of detail required to support decision making and budget requests. .

(2) PIR Approval Process. The single milestone in the PIR approval process is an Alternative Formulation Briefing that takes place after alternative plans have been formulated and prior to release of the draft PIR for public review. Additional milestones

for fish passage and dam point control projects may be added at the discretion of the MVD Commander. The purpose of the AFB is to ensure that plans have been properly formulated, any legal and policy issues have been identified and resolution has been reached, and MVD concurs with the plan that will likely proceed into the design and implementation phase. The HQ MVD Regional Integration Team (RIT) participation will be limited to PIR's on fish passage and dam point control and cases where there are policy issues requiring HQ resolution. Approval of the PIR will be by letter of the MSC Commander to the District Commander, with a copy furnished to the MVD RIT . The approval letter will certify that the requirements for approving the PIR have been satisfied; summarize the findings, conclusions, and rational for approving the decision document; and certify that the project addressed in the PIR is justified. For the specifically authorized fish passage and dam point control projects, the PIR will be submitted to the MVD RIT for HQ approval. The feasibility phase ends upon approval of the PIR. Upon appropriation and allocation of funds for construction, the project shall be implemented through execution of the activities that would normally be included in the PED and construction phases of a specifically authorized project. Prior to initiation of construction in those cases where the project OMRR&R will be accomplished by the U.S. Fish and Wildlife Service or a state, the District Engineer will execute an agreement with the appropriate entity for the OMRR&R of the completed project. The agreement will be similar to the Memorandums of Agreement currently executed in the Environmental Management Program. In those limited cases where land or interest in land must be acquired, construction contracts should not be solicited until the District Chief of Real Estate has certified in writing that sufficient real property interests are available to support construction under such contracts. More detail on limitations on solicitation of contracts and contract bid opening is provided in paragraphs F-11 e. and f. of Appendix F of ER 1105-2-100.

F. Project Implementation Process for Cost-Shared Projects Including Land Acquisition.

(1). Feasibility Cost Sharing Agreement (FCSA) . Upon appropriation of funds up to $100,000 will be allocated to the project for the preparation of a Project Management Plan for the PIR and negotiation of a FCSA. No FCSA is required if the feasibility phase can be completed for $100,000 or less. Any feasibility cost in excess of $100,000 will be shared 50/50 with the non-Federal sponsor pursuant to the terms of a FCSA executed by the District Commander and the non-Federal sponsor. An adaptation of the Continuing Authorities Program FSCA reflecting the authority of Section VIII of WRDA 2007 will be used as a base and close coordination maintained through the vertical team in development of the initial study specific FCSA. Work will be initiated in HQ on a model FCSA and delegation of approval authority for the UMR-IWW ecosystem restoration program. Until the model FCSA is approved and delegation of approval authority is provided, the MVD Commander must forward to the MVD RIT one hardcopy and an electronic copy of a FCSA package containing: a clean copy of the negotiated draft FCSA; a copy of the draft FCSA with the deviations from the model CAP FCSA along with detailed reasons for the deviation; Certificate of Legal Review signed by the District Counsel; current letter of intent from the non-Federal sponsor, and

sponsor self-certification of financial capability. All documents requiring signature (Certificate of Legal Review, letter of intent, and sponsor self-certification of financial capability) must be scanned so that required signatures are contained in the electronic file. The FCSA will be executed upon HQ approval.. No funds in excess of the $100,000 will be allocated to the project until the FCSA is executed. Subsequent to execution of the FCSA , no work may be initiated until the non-Federal sponsor's appropriate proportional share of costs over $100,000 has been made available either in cash or through an agreement on a schedule for and estimated value of non-Federal feasibility work. In accordance with the principles of Section 105(a) of WRDA 86, as amended, the non-Federal sponsor may be afforded credit against its share of study cost for the value of non-Federal feasibility work performed during the feasibility phase. Credit afforded is limited to credit for the non-Federal work that does not result in any reimbursement to the non-Federal sponsor, including consideration of cost incurred by the non-Federal sponsor for participation in the study coordination team and certain audit-related activities. (See F-15 b. (2) of Appendix F of ER 1105 -2-100).

(2). PIR Content. The PIR requirements are the same as for 100 percent Federal projects except that the PIR must also include a completed Real Estate Plan consistent with the requirements of Chapter 12, ER 405-1-12 ; the non-Federal sponsor self-certification of financial capability; District Real Estate certification that the non-Federal sponsor has the capability to acquire and provide the required real estate interests; and a detailed description of the non-Federal sponsor's local cooperation requirements. A detailed discussion of the interest in land required for ecosystem restoration is contained in paragraph F-20b.(2) of ER 1105-2-100.

(3). PIR Approval Process. The approval authority for the PIR's is delegated to the Chief of Engineers with further delegation to the MVD Commander. The requirements for an AFB are the same as for 100% Federal projects.

(4). Project Cooperation Agreement (PCA) or Project Partnership Agreement (PPA) . Subject to appropriation of construction funding , the design and implementation phase will be conducted under the provision of a PPA executed by the District Commander and the non-Federal sponsor. Since there is no approved model agreement for the Upper Mississippi River and Illinois Waterway (UMR-IWW) ecosystem restoration program and WRDA 2007 contained changes that will impact all model PCA's, the previously approved model agreement and implementing memorandums for single purpose ecosystem restoration should be used as a base and close coordination maintained through the vertical team in development of the initial project specific design/construction PPA. Work will be initiated in HQ on a model PPA and delegation of approval authority for the UMR-IWW ecosystem restoration program. Until the model PCA and delegation of approval authority is approved, the MVD Commander must forward to the MVD RIT one hardcopy and an electronic copy of a PCA package containing: a clean copy of the negotiated draft agreement; a copy of the draft agreement with the deviations from the single purpose model ecosystem restoration agreement indicated by redline/strikeout along with detailed reasons for the deviation; Certificate of Legal Review signed by the District Counsel; PCA Checklist (the CAP

Checklist should be adapted and used); current letter of intent from the non-Federal sponsor, and sponsor self-certification of financial capability. All documents requiring signature (PCA checklist, Certificate of Legal Review, letter of intent, and sponsor self-certification of financial capability) must be scanned so that required signatures are contained in the electronic file. The PCA will be executed upon HQ approval.

(5) Credit for In-Kind Contributions. SEC. 2003 (a) (4) of WRDA 2007 established that a PPA may provide credit for the non-Federal share of the cost of a project for the value of in-kind contributions made by the non-Federal interests. Implementing guidance for this provision is under development

(6). Construction. Upon appropriation and allocation of Construction, General funds the project shall be implemented through execution of the activities that would normally be included in the PED and construction phases of a specifically authorized project. Construction contracts should not be solicited until the District Chief of Real Estate has certified in writing that sufficient real property interests are available to support construction under such contracts. In exceptional circumstances the District Commander may proceed and issue a solicitation contrary to the general policy after full assessment of the risks and benefits of proceeding and solicitation documents should advise potential bidders of such facts. However, sufficient real property interests must be available to support implementation under a contract before bids are opened. More detail on limitations on solicitation of contracts and contract bid opening is provided in paragraphs F-11 e. and f. of Appendix F of ER 1105-2-100.

G. Monitoring and Adaptive Management. The authorized ecosystem restoration plan includes systemic and project specific monitoring and adaptive management at a total cost of about $300 million. The systemic program will include ecosystem modeling, biological data and physical data collection and adaptation of the plan in response to the results of the systemic evaluation. On an individual project level monitoring will assess the response of the project in meeting goals and performance measures with the results used to adapt the project or future projects to the lessons learned. The construction phase of the project extends through completion of the project specific monitoring and adaptive management. For cost shared projects, project monitoring and adaptive management are shared as a project costs. The one-percent monitoring limit and prohibition on adaptive management applicable to CAP project does not apply but monitoring and adaptive management must be accomplished within the framework and cost authorized for those purposes as reflected in the feasibility report. In accordance with SEC. 8004 (c) of WRDA 2007, long term resource monitoring, computerized data inventory and analysis and the applied research program will be carried out at 100% Federal cost and shall consider and adopt the monitoring program established for the Environmental Management Program. The long term resource monitoring program authorization is limited to $10,420,000 per fiscal year if such sum is not appropriated for the EMP Program. The long term resource monitoring is only one part of the authorized systemic monitoring and adaptive management program.

H. Consultation and Funding Agreements. In accordance with SEC. 8004 (e) the ecosystem restoration program will be carried out in consultation with the Secretary of the Interior and the five states. Section 8004(e)(2) provides authority for the Secretary of the Army to transfer funds to the Secretary of the Interior, the Upper Mississippi River Basin Association and the five states for the planning, implementation, and evaluation of the ecosystem restoration projects and programs. In general, fund transfers will be made for specific tasks based on considerations of cost effectiveness and the expertise and capability of the Department of the Interior, the Upper Mississippi River Basin Associations and the five states to accomplish the task. Transfers will not be made for coordination activities that are part of Federal and state agencies and the Upper Mississippi River Basin Association's usual responsibilities. The fund transfers will support work on 100 percent Federal projects or systemic or program wide activities and not cost shared projects and is only for work to be accomplished by state and agency personnel and not by contract. The authority to execute transfers is delegated to the MVD Commander with further delegation to the District Commanders for funding transfers not exceeding a total of $100,000 to any of the listed states and agencies in any fiscal year and for funding transfers that are not for project construction. For cost shared projects with the states, planning, implementation and evaluation activities would be accomplished with state funds with appropriate credit under the terms of a FCSA or PPA.

I. Implementation Reports. In accordance with SEC. 8004 (g), in 2009 and every 4 years thereafter, MVD will prepare an implementation report that will assess the progress in meeting the goals for ecosystem restoration projects. The report will include the baselines, milestones, goals and priorities for the projects completed during the reporting period. MVD will establish a schedule for the first implementation report in consultation with the vertical team that will be submitted to Committee on Environment and Public Works of the Senate and Committee on Transportation and Infrastructure of the House of Representatives not later than 30 June 2009.

J. Advisory Panel. In accordance with SEC. 8004 (g) (2), the Secretary shall appoint and convene an Advisory Panel to provide independent guidance in the development of the implementation report. The authority to appoint and convene the Advisory Panel will be retained by the Secretary of the Army. The panel shall include one representative of each of the five states resource agencies or a designee of the Governor of the State; one representative of the Department of Agriculture; one representative of the Department of Transportation; one representative of the United States Geological Survey; one representative of the United States Fish and Wildlife Service; one representative of the Environmental Protection Agency; one representative of affected landowners; two representatives of conservation and environmental advocacy groups and two representatives of agriculture and industry advocacy groups. The Secretary of the Army representative will be the chairperson of the Advisory Panel. The Advisory Panel and any working groups established by the Advisory Panel will not be considered an advisory committee under the Federal Advisory Committee Act. While the panel is described as providing implementing guidance for the implementation report SEC. 8004(h) also indicates that the Advisory Panel will, in consultation with the Secretary of the Army, develop a system to rank proposed projects. SEC. 8004(h) also

directs that the ranking system will give greater weight to projects that restore natural river processes. The vertical study team will consider the Advisory Panel's role in establishing the institutional framework for project implementation. The Advisory Panel role does not have to be limited to the functions specified in Title VIII. "Independent guidance" will be interpreted as independent from the Corps of Engineers and does not mean that Advisory Panel members cannot be otherwise involved in the planning, evaluation, and implementation of the ecosystem restoration plan.

8. Comparable Progress. In accordance with SEC. 8005, the schedules being established for the UMR-IWW dual purpose plan will assure that navigation and ecosystem restoration projects are being carried out at comparable rates. Comparable rate does not mean that funding in any given fiscal year for navigation and ecosystem restoration must be allocated proportional to the total amount appropriated for the navigation and ecosystem restoration purposes but that the funds be allocated in accordance with schedules and management plans that assure that the authorized navigation and ecosystem restoration projects be funded efficiently and be completed in the same timeframe. Beginning in 2009 an annual report will be submitted to Congress regarding whether this objective is being met. SEC 8005 provides that the Secretary of the Army or Congress may adjust annual funding requests to ensure that the projects move toward completion at a comparable rate.

WOODLEY

River Resources Forum Integration with the Navigation and Ecosystem Sustainability Program

The Issue: The River Resources Forum (RRF or Forum) has actively been involved in Mississippi River management within the St. Paul District of the Corps of Engineers since 1980. This partnership has allowed State and Federal agencies to solve important river issues in an open and collaborative format to balance the needs of commercial navigation with the needs of sustaining the vital river ecosystem. With the passage of WRDA 2007, and the authorization of the Navigation and Ecosystem Sustainability Program (NESP), Forum members believe that the role of the RRF in river management will not only continue but that RRF input will be an important factor in the decision making process for any new partnership that may emerge as a part of this legislation.

History of the River Resources Forum:

The River Resources Forum has a long history as an advisory group to the Corps of Engineers, St. Paul District, dating back to 1980 when the group was known as the Channel Maintenance Forum (CMF). From 1980 to 1990, the CMF continued the interagency coordination that began with the Great River Environmental Action Team (I) for resolving issues associated channel maintenance management activities, mostly dredging and disposal, in an environmentally sound manner. By 1990, most of the controversial channel maintenance issues had been resolved and required less staff time and resource commitment but new issues of habitat degradation, recreation, navigation and a new federally funded program called the Environmental Management Program (EMP) needed the insight of the interagency coordination that the CMF provided.

In December, 1990, the CMF was renamed the River Resources Forum signaling the change in scope and diversity of the work the partnership would oversee in the future. The name change was followed by a strong commitment from RRF agencies in the form of a Partnering Agreement, which was signed by agency dignitaries on September 19, 1991. The document outlined two major objectives; (1) provide a mechanism for all Federal and State agencies with management or regulatory responsibilities along the Mississippi River and tributaries in the St Paul District area to facilitate the coordination of their programs and activities; and (2) provide an opportunity for other interested parties to express their concerns and views to the agencies (The entire Partnering Agreement and Operating Procedures are attached). The participating members include the following Federal and State agencies; US Coast Guard, U.S. Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. National Park Service, NRCS and the Iowa Department of Natural Resources*, Iowa Department of Transportation, Minnesota Department of Natural Resources*, Minnesota Department of Transportation, Minnesota Pollution Control Agency, Wisconsin Department of Natural Resources*, and the Wisconsin Department of Transportation. (* Denotes the voting member for the State, all Federal agencies receive one vote.)

Since 1980 the Forum has held 80 meetings and produced a list of accomplishments within the Corps of Engineers - St. Paul District on the Mississippi River that shows the dedication of all the member organizations. The Forum members are supported by technical experts that work on the On Site Inspection Team, the Fish and Wildlife, Recreation and Navigation Work Groups, and the Water Level Management Task Force. These groups work out solutions and bring them to the Forum for endorsement and future implementation. Some of the accomplishments are highlighted below:

* Completed and implemented individual dredge material management Pool Plans completed by 1986
* Developed and implemented Beach Plans for Pools 7-10 by 1987
* Selected and prioritized habitat projects for the Environmental Management Program (EMP) beginning in 1988 and continued to update the list since that time, with 25 projects implemented to date.
* Completed the Channel Maintenance Management Plan in 1996, which served to streamline all routine Mississippi River dredging and disposal in the St. Paul District.
* Planned and implemented large pool-scale drawdowns to reinvigorate aquatic emergent vegetation.
* Developed and completed the Environmental Pool Plans describing a desired future condition for each navigation pool, September 2004.
* Designed and built islands out of dredge material for environmental benefit.
* Identified and published the 4 critical areas where the erosion of railroad tracks adjacent to the commercial navigation channel has the potential of causing serious problems for derailment and spills.
* Determined the best location for mooring cells above and below the locks and dams in the St. Paul District.
* Conducted and evaluated data from recreational boating studies using aerial photography along much of the St. Paul District corridor of the Mississippi River.
* Provided a forum for public and private interests related to river management

With these accomplishments it is easy to understand the pride that RRF members have in their work. However, equally important is the fact that this long-standing partnership provides a format for honest discussion of issues due to trust that has grown between agencies over many years of working together. This trust allows the Forum to continue to build on past accomplishments and provides an avenue to work on issues that were once thought to be impossible to resolve and implement.

Vision for NESP Integration with the River Resources Forum

The River Resources Forum has a well-established and highly effective system for resolving issues, and planning and implementing projects, whether it is for maintenance of the nine-foot navigation channel, recreation research, or habitat restoration projects. In the case of NESP, the Forum organization and access to scientific and management expertise through the technical work groups is particularly well suited for the project/reach planning and selection for future implementation. Therefore, it is to the benefit of the Corps of Engineers and the Mississippi River that the Forum be an intricate connection in river navigation, ecosystem restoration, and adaptive management for NESP implementation.

Due to the long standing commitment of the Forum to the Mississippi River within the St. Paul District of the Army Corps of Engineers, the Forum, believes it can significantly contribute its experience and knowledge in forming Institutional Arrangements under NESP.

* The Forum and member work groups can provide the foundation for NESP project/reach ecosystem planning, selection and implementation in the St. Paul District.
* Recommendations by the RRF will be fully considered by the River Council.
* Project Delivery Teams (PDTs) can effectively coordinate with the Forum and member work groups on all project development in the St. Paul District.

- The Forum and member work groups have the ability to provide input to the River Council (or other similar group) to help determine systemic prioritization and sequencing of project/reach ecosystem planning and restoration projects and measures.
- The RRF should be provided the opportunity to review and comment on Science Panel recommendations and findings.
- A representative from the River Resources Forum will be appointed to the River Council, and will attend each River Council meeting to provide input and take information back to the Forum.
- The Forum is willing to forward important issues to be placed on the River Council agenda for discussion.
- The Forum is willing to address the Council upon their request on river issues.
- The Forum and member work groups will actively share information and work toward common understanding regarding navigation efficiency, reliability, and safety.
- The Forum has the ability to be actively involved in all navigational and ecosystem issues in the St. Paul District.
- The Forum will continue to conduct business in the standard operating protocol that has been established over the past 27 years.
    - Meetings will be held three times a year.
    - Meeting minutes and agenda are sent out before the meeting.
    - Any issue which needs Forum endorsement will be sent out at least 30 days in advance for inter-agency consideration and coordination.
    - The Forum will seek consensus on river issues, but when necessary issues may be settled by the voting members.
    - All decisions of the Forum are recorded in the meeting minutes.
    - The Fish and Wildlife, Recreation and Navigation Work Groups, and the Water Level Management Task Force will consist of appointed river resources managers from the Federal and State agencies.
    - The Corps co-chairs the meetings with a state representative.
    - The Corps will provide support staff to document meeting minutes and agendas

Water Level Management Task Force Update – 4/30/08 RRF meeting

Submitted by Tim Schlagenhaft, Water Level Management Task Force Chair

- Task Force met March 6, 2008, next meeting tentatively set for May 30, 2008
- Pool 6 drawdown (1-ft at dam, ½-ft. at Winona guage)
    - Recommend Pool 6 drawdown for summer, 2008 is a go assuming:
        - Final EA endorsed
        - No additional main channel dredging due to drawdown
        - Recreational boating concerns addressed
        - Public support
    - Public meetings are scheduled for May 6 in Trempealeau and May 7 in Winona – County and city officials have been notified
    - Mussels and vegetation will be monitored during drawdown
    - Signs will be posted at locks and boat accesses, news releases, and contact phone number updated, website updated
- Pool 3 drawdown
    - Task Force reviewed several drafts of NESP fact sheet and is ready to proceed
    - Vegetation survey will be conducted by UMRCC this summer
    - Advisory committee will be formed to involve constituents – names requested
- Funding needed to continue evaluating vegetation persistence in Pools 5 and 8.
- Water management program and Adaptive Management Strategy
    - Historically operated the pools with greater drawdown extent and frequency
    - Draft recommendation provided on feasibility of incorporating drawdowns into Corps water management program
    - Adaptive strategy tool that can be implemented in phases to help develop water management program

Draft recommendation for discussion at the next WLMTF meeting (May 30, 2008)

The Water Level Management Task Force requests the River Resources Forum provide the following recommendation to the St. Paul District Corps of Engineers:

"The River Resources Forum recommends the St. Paul District evaluate the feasibility of including pool-wide water level reductions (drawdowns) as an ecosystem restoration component of their Water Management Program"

Objective: The Water Level Management Task Force believes that pool-wide drawdowns should be considered an operational component of the St. Paul District Water Management Program for the federal 9-Foot Channel Project. Small and large-scale drawdowns have been conducted in the St. Paul District for over a decade. The Water Level Management Task Force believes that drawdowns are a valuable tool to restore and enhance aquatic vegetation production and improve fish and wildlife habitat on the Upper Mississippi River.

The Task Force recommends that pool-wide drawdowns be evaluated by the St. Paul District for inclusion in their Water Management Program so they become traditional management practices. Doing so will facilitate developing an adaptive strategy to systematically manage water levels within the District to meet ecosystem restoration objectives of the Navigation and Ecosystem Sustainability Program (NESP).

Adaptive Management Guidelines for Implementing Water Level Drawdowns on the Upper Mississippi River - DRAFT – 4/11/08

The Water Level Management Task Force, a technical work group overseen by the River Resources Forum of the St. Paul District Corps of Engineers, has been working to implement water level management options for restoring habitat on the Upper Mississippi River. The Task Force has completed summer drawdowns on two pools within the St. Paul District during the past 5 years. Results have been promising and are presented in two reports (see references). While much is known about water level management as presented in the scientific literature, there remain several important questions specific to the Upper Mississippi River regarding the physical, biological, and water quality benefits/impacts of drawdowns.

To address these questions and improve planning efficiency within the Task Force a long-term adaptive management strategy is recommended. This will provide a coordinated, phased, scientifically valid approach to conducting and evaluating drawdowns, leading to a long-term water level management program. Funding and other issues will affect implementation of these guidelines, which can be implemented in phases as resources are available. Improved habitat will provide economic benefits and should be considered when making funding decisions.

The Task Force has identified specific questions and strategies for this approach. Monitoring and research is needed to evaluate the impacts on physical, chemical, and biological parameters, as described in the monitoring section at the end of this document. Perennial emergent aquatic vegetation (PEAV) is used as a key indicator in this strategy. PEAV does not include exotic species such as reed canarygrass and purple loosestrife. Over time, other indicators (such as waterfowl, fish, invertebrates, etc) could be developed to tie water level management objectives directly to fish and wildlife populations.

This approach could be applied to the entire Upper Mississippi River, including pools in the lower impounded reach and possibly within each geomorphic reach. Conducting similar drawdowns in the lower impounded reach and other geomorphic reaches would aid in our ability to evaluate systemic effects.

Questions and Strategies

1) **How long do the benefits of drawdowns persist and at what frequency do they need to be implemented?**

Drawdowns are recognized as a tool that must be used on a cyclical basis to be most effective. The hydrological conditions that contribute to vegetation loss over time (artificially high water levels during summer) continue to influence the system as water levels are managed for commercial navigation. At this time, the frequency of the cycle that provides the greatest benefits is unknown. Knowing how long the benefits of drawdowns persist is critical to knowing when they need to be repeated.

Strategy:

a. **Change the Operating Plan in one or more Pools to allow for drawdowns during the growing season when river flows are suitable.**

This strategy would return one or more Pools to a previous operating plan where water levels were managed over a wider range of elevations and were typically lower during the summer growing season. The selection of Pools would be dependant upon a variety of factors including environmental benefits, navigation channel maintenance issues, up-front and long-term dredging costs, dredge material disposal, recreational and business impacts, etc. This change would allow for the evaluation of the effects of drawdowns occurring every year river flows are suitable.

b. **Establish a target acreage for perennial emergent aquatic vegetation (PEAV) in each Pool (except study pools), and conduct drawdowns when PEAV falls below 50% of the target.**

This strategy would implement drawdowns when needed based on PEAV. It sets quantifiable objectives for PEAV in each pool, and triggers a drawdown when PEAV is ≤50% of the objective. Pools where the operating plan changes and where drawdowns would be progressively deeper are excluded since they would be managed under different strategies (1a, 2a). Objectives should be set based on peak PEAV for pools that have been drawn down (i.e. 2005 PEAV for Pool 8), and the acreages identified in the Environmental Pool plans for the remaining pools. Once a drawdown is completed on a pool, a more scientifically based objective could be established.

2) **What would be the effects of varying the extent (depth) of drawdowns?**

Progressively deeper drawdowns will expose more substrates and impact larger areas within individual pools. Evaluating the impacts of deeper drawdowns will help develop a strategy that provides the greatest habitat benefits related to costs (including any negative impacts).

Strategy:

a) **Conduct progressively deeper drawdowns in Pool 6 (0.5' increase annually) until there are no increases in PEAV coverage and/or there are unacceptable negative impacts.**

Mussel mortality is a significant concern and progressively lowering water levels through consecutive year drawdowns (if flows allow) may help "relocate" mussels into deeper water and reduce mortality. Pool 6 was chosen because it is proposed for a one-foot drawdown in 2008, and a mussel population estimate has been completed,

which can serve as a baseline for future evaluation. In addition, this strategy will help determine cumulative increases in vegetation and identify negative impacts of deeper drawdowns.

Other concerns such as physical limitations within the navigation infrastructure (sill elevations, dredging quantities and disposal site capacity, etc) and recreational access concerns would need to be addressed.

b) **Conduct progressively deeper drawdowns in a selected pool (0.5' increase each time the pool reaches ≤50% of the target acreage) until there are no increases in PEAV coverage and/or there are unacceptable negative impacts.**

This strategy allows us to evaluate progressively deeper drawdowns, but with a frequency based upon trigger values. This would extend over a greater period of time, and when compared to Pool 6 (2b above) will help evaluate mussel recolonization of shallow areas under less frequent, but deeper drawdowns. Similar to 2a, other navigation and recreational impacts would need to be considered.

3) **What would be the effect of starting drawdowns earlier in the year?**

Drawdowns in the St. Paul District to date have started in mid-June. Past research in other areas indicates earlier drawdowns may have greater benefits to PEAV. However there are also concerns that earlier drawdowns may have negative impacts to fish.

Strategy:

a) **Follow the descending arm of the hydrograph during spring for the next Pool(s) selected for drawdown based on PEAV ≤50% of the target acreage.**

This strategy will allow us to evaluate drawdowns that follow the descending arm of the hydrograph, mimicking when lower water levels would have occurred naturally. In some years this will result in earlier implementation of drawdowns than the mid-June efforts conducted to date.

Monitoring and Research

Monitoring and research are a critical element of this adaptive management strategy. While considerable data and knowledge are available in the literature regarding drawdowns in general, each of the questions specific to the Upper Mississippi River as described previously would require additional monitoring and/or research.

Monitoring would need to be both short and long-term (20 plus years). For example, short-term negative impacts on mussels that are stranded during a specific drawdown need to be weighed against long-term positive impacts from a healthier ecosystem.

The following monitoring considerations are high priority:

- Monitoring of each pool to determine when PEAV reaches ≤50% of the target value.
    - Aerial photography, interpretation, and coverage mapping
    - Ground-truthing for species identification and community composition
- Monitoring of the effects on fish spawning and recruitment for drawdowns that follow the descending arm of the hydrograph rather than the June 15 start date.
- Intensive monitoring effort for pools returning to previous operating plan and pools with progressively deeper drawdowns for vegetation, mussels, water quality, fish, floodplain forest diversity, sediment, hydraulic conditions, and invertebrates. Vegetation and mussels are the highest priority.
    - Vegetation includes percent frequency and distribution for perennial emergent and submersed aquatic vegetation.
    - Mussels includes species composition and abundance (including population estimates).
    - Water quality includes turbidity and nutrients.
    - Fish includes fish kills, recruitment, and catch per unit effort for key species.
    - Floodplain forest includes continued monitoring of Corps existing permanent forest inventory plots.
    - Sediment includes main channel surveys, pool sediment budgets, O&M dredging trends, secondary channel and tributary surveys to document scour/fill.
    - Hydraulic conditions include stage and flow distribution.
    - Invertebrates
    - Cultural resource sites

Other Reasons to Consider Drawdowns

These investigative strategies are not meant to preclude the possibility of conducting a drawdown in a pool for reasons other than the pre-determined trigger level. Other reasons for conducting a drawdown may include, but are not limited to:

- "Jump-start" establishment of perennial aquatic emergent vegetation following completion of island construction or other related projects.
- Increase the hydraulic slope in secondary and tertiary channels to improve substrate conditions, and morphometric change.
- Create seasonal sandbar and mudflat habitats for turtles and shorebirds.
- Prevent colonization of mussels in shallow areas.
- Management of invasive exotic species.
- Improve water quality to help meet TMDL goals.

References

Kenow, K. P., J. T. Rogala, and L. R. Robinson. 2007. Vegetation response to a water level drawdown in Navigation Pool 5 of the Upper Mississippi River, 2005. U.S. Geological Survey, FY 2005 Eastern Region State Partnership Program Report.

Kenow, K.P., J.T. Rogala, and P.J. Boma. 2007. Evaluation of 2006 vegetation response on areas exposed during the 2005 drawdown of Navigation Pool 5, Upper Mississippi River. U.S. Army Corps of Engineers, Rock Island, St. Louis, and St. Paul Districts. NESP ENV Report 5. 10 pp.

Kenow, K.P., and J.E. Lyon. 2008. Composition of the seed bank in drawdown areas of Navigation Pool 8 of the Upper Mississippi River. River Research and Applications 24:(in press).

Water Level Management Task Force, River Resources Forum, July 2007. Summary of Results of the Pool 5 and Pool 8 Drawdowns on the Upper Mississippi River.

Water Level Management Task Force, River Resources Forum, August, 2007. Upper Mississippi River Pool 8 Drawdown Results.

River Resources Forum Meeting – 30 Apr 2008
Recreation Work Group (RWG) Activities

1) ***Last Met – 22 Jan 08***
   - *2007 Recreational Boating Study(RBS) Re-Cap*
   - *Full study report is at the St. Mary's Univ. River Recreation Site – https://maps.geospatialservices.org/missboatserver/index*
   - *Summary of 2007 RBS on Corps Site – http://www.mvp.usace.army.mil/navigation - RWG*
   - *Look at how data is used, methodology & further define objectives prior to any future studies.*

2) ***Recreation Beach Management Planning***
   - *Pool 9 Beach Plan*
     - *Distributed to RWG*
     - *Scaled back version compared to prior plans*
     - *Comments due 9 May*
     - *Follow up discussion/meeting*
     - *Public Involvement – Friends of Pool 9*
     - *Finalize this summer*
   - *Pool 10 Beach Plan*
     - *Set beach site inspections for late May/early June*
     - *Public Involvement – Friends Group*
     - *Draft Plan this summer*

3) ***Fish & Wildlife Work Group White Paper – Summary of Environmental Impacts Attributable to Large and High Powered Boat Traffic***
   - *Do-Outs*
     - *Scoping of GIS Work*
     - *Erosion/Sedimentation Quantification Exercise*